



Bison Oil Well Cementing Single Cement Surface Pipe

Date: 7/21/2014

Invoice # 35004

API#

Foreman: Kirk Kallhoff

Customer: EnCana Oil & Gas (USA) Inc.

Well Name: grant hurt 1a-14h

County: Weld

State: Colorado

Sec: 14

Twp: 2n

Range: 68w

Consultant: mike

Rig Name & Number: patterson 326

Distance To Location: 25

Units On Location: 4023-3104/4024-3203

Time Requested: 930 am

Time Arrived On Location: 900 am

Time Left Location: 1:30 pm

WELL DATA

Casing Size OD (in) : 9.625
Casing Weight (lb) : 40.00
Casing Depth (ft) : 830
Total Depth (ft) : 885
Open Hole Diameter (in.) : 12.25
Conductor Length (ft) : 100
Conductor ID : 16
Shoe Joint Length (ft) : 42
Landing Joint (ft) : 35

Max Rate:

Max Pressure:

Cement Data

Cement Name: BFN III
Cement Density (lb/gal) : 15.2
Cement Yield (cuft) : 1.27
Gallons Per Sack: 5.89
% Excess: 50%
Displacement Fluid lb/gal: 8.3
BBL to Pit:
Fluid Ahead (bbls): 30.0
H2O Wash Up (bbls): 20.0

Spacer Ahead Makeup

Casing ID

8.835

Casing Grade

J-55 only used

Calculated Results

cuft of Shoe 17.88 cuft

(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 89.10 cuft

(Conductor Width Squared) - (Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 342.93 cuft

(Open Hole Squared) - (Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 449.91 cuft

(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 80.13 bbls

(Total Slurry Volume) X (.1781)

Sacks Needed 354 sk

(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 49.68 bbls

(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 62.40 bbls

(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 655.37 PSI

Pressure of the fluids inside casing

Displacement: 339.77 psi

Shoe Joint: 33.16 psi

Total 372.93 psi

Differential Pressure: 282.43 psi

Collapse PSI: 2570.00 psi

Burst PSI: 3950.00 psi

Total Water Needed: 162.08 bbls

X

Authorization To Proceed

Customers hereby acknowledges and specifically agrees to the terms and condition on this work order, including, without limitation, the provisions on this work order.



**Bison Oil Well Cementing
Single Cement Surface Pipe**

Customer
Well Name

EnCana Oil & Gas (USA) Inc.
grant hurt 1a-14h

INVOICE #
LOCATION
FOREMAN
Date

35004
Weld
Kirk Kallhoff
7/21/2014

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

Safety Meeting		Displace 1			Displace 2			Displace 3			Displace 4			Displace 5		
MIRU		BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI	BBLS	Time	PSI
CIRCULATE	1135am	0	1220pm	10	0			0			0			0		
Drop Plug	900am	10	1222pm	110	10			10			10			10		
1220 pm	1147am	20	1224pm	130	20			20			20			20		
		30	1226pm	190	30			30			30			30		
		40	1228pm	290	40			40			40			40		
M & P		50	1229pm	360	50			50			50			50		
Time	Sacks	60	1232pm	320	60			60			60			60		
1153 am	354	70			70			70			70			70		
1216 pm stop		80			80			80			80			80		
		90			90			90			90			90		
		100			100			100			100			100		
		110			110			110			110			110		
% Excess	50%	120			120			120			120			120		
Mixed bbls	49.6	130			130			130			130			130		
Total Sacks	354	140			140			140			140			140		
bbl Returns	17	150			150			150			150			150		
Water Temp																

Notes:

bumped plug at 1235pm 860 psi 80.1 bbls slurry

X

Work Performed

X

Title

X

Date

7-21-14